SR 299
Transportation Concept Report

Traffic Assessment/Facility Concept

Introduction

This section provides a summary of current and future traffic volumes, level of service and the facility concept for SR 299.

Route Segments

For purposes of analysis, highways are divided into smaller pieces called segments. Each segment selected has one or more characteristics that distinguish it from other segments. Information that is obtained and/or developed at the segment level includes traffic growth projections, present and future level of service, target (concept) level of service, environmental issues, right of way and adjoining land uses. This information is used during assessment of the potential need for operational and capacity improvements, as well as in subsequent development of project initiation documents.

Criteria used in the selection of segments for analysis include:

- Change in route concept.
- Change in facility type.
- Change in function or use of route.
- Significant changes in ADT.
- Significant changes in terrain or grade.
- Junction/crossing of other highway or major facility.
- Urban/rural boundaries or other significant change in land use.
- District boundaries.
- County/State/National boundaries.

State Route 299 has been broken down into 17 segments for analysis purposes.

Level of Service

Level of Service (LOS) is a qualitative measure used to describe operating conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six LOS are defined for each type of facility analyzed. Letters designate each level, from "A" to "F", with LOS "A" representing the best operating conditions and LOS "F" the worst. **Table 26** provides Average Daily Traffic and LOS information for 2005, 2015, and 2025.

Target LOS: C/D Threshold

Caltrans District 2 seeks to implement improvements on SR 299 when LOS is projected to fall below LOS C. This improvement standard is commonly referred to as the "C/D" Threshold". When a segment is forecasted to fall to LOS D, then improvements should be pursued.

Concept LOS:

Caltrans LOS concept for SR 299 within District 2 is the C/D threshold.

Facility Concept

Facility Concept is a general term used to describe the number of lanes and degree of access control on a State Route or Freeway. Existing facility is used to describe the current, built facility. Facility Concept and Post 20-year Concept are terms used to describe the facility that will be required in the future to maintain the concept level of service under projected traffic volumes.

Based on the continued slow traffic growth rate of (1.0-1.5% per year) in rural areas, the Facility Concept for the majority of SR 299 will continue to be a two-lane conventional highway with intermittent passing lanes. Under a conventional designation, the District will maintain but not expand existing access control.

SR 299 passes through many small rural communities where it serves as the "main street". It will be important for Caltrans to work with communities and consider appropriate context sensitive solutions to meet the Department of Transportation standards while incorporating the needs and desires of the community. When developing transportation improvements, it may be appropriate to include elements that create buffer zones between pedestrians and traffic, traffic calming devices, or designs that include soft medians or other elements that enhance shared use with bicycle and pedestrian traffic.

SR 299 in the Redding urban area is both 4-lane conventional highway and 4-lane freeway. Traffic volumes are the highest of the entire route in Redding. Growth within this urban area will be higher than on any other portion of the route, however the Facility Concept will remain 4-lane. Future emphasis will be on operational improvements. **Table 27** summarizes the Facility Concept for SR 299.

Table 26
Average Daily Traffic and Level of Service Summary

Segment No.	Segment Description	CO	Begin Post Mile	CO	End Post Mile	2005		2015		2025	
						Average Daily Traffic	LOS	Average Daily Traffic	LOS	Average Daily Traffic	LOS
01	Arcata to TRI County Line	HUM	0.0	HUM	43.04	3600 - 12600	B	3850 - 13000	B	4150 - 13450	C
02	HUM/TRI County Line to Junction City	TRI	0.0	TRI	43.42	3200 - 3650	B	3500 - 3950	B	3900 - 4350	C
03	Junction City to Weaverville	TRI	43.42	TRI	50.62	2950 - 3400	B	3350 - 4000	C	3850 - 4750	C
04	Weaverville	TRI	50.62	TRI	53.43	3400 - 12200	D	4200 - 14000	E/D[1]	5200 - 16100	F/E[1]
05	Weaverville to SHA County Line	TRI	53.43	TRI	72.25	3200 - 6800	B	3700 - 7700	C	4350 - 8800	D
06	Buckhorn Grade	SHA	0.0	SHA	R8.02	4000	E	4900	E	5400	E/C[2]
07	Crystal Creek Road to Redding	SHA	R8.02	SHA	21.65	4000 -10600	C	4900 - 11800	D	5400 - 15600	D
08	Redding City Limits to SR 273	SHA	21.65	SHA	24.09	10600 - 23000	C	11700 - 26500	C	15600 - 31500	D
09	SR 273 to I-5 Junction	SHA	24.09	SHA	24.82	18900 - 26500	C	21400 - 28500	D	24000 - 30500	D
10	I-5 Junction to End of Freeway	SHA	24.82	SHA	27.75	9900 - 22600	B	11600 - 27000	C	13300 - 30500	C
11	End Freeway to Burney	SHA	27.75	SHA	74.12	2750 - 7500	B	3200 - 8700	B	3700 - 9500	C
12	Burney to SR 89 Junction	SHA	74.12	SHA	80.09	3350 - 10000	B	4300 - 11500	B	4800 - 12800	B
13	SR 89 Junction to SHA/LAS County Line	SHA	80.09	SHA	99.36	2900 - 4700	B	3100 - 5200	B	3300 - 5400	B
14	SHA/LAS County Line to Adin	LAS	0.0 - 25.63	MOD	0.0 - 0.33	1050 - 2100	A	1400 - 2400	A	1700 - 2700	A
15	Adin to Canby	MOD	0.33	MOD	21.81	800 - 1500	A	900 - 1600	A	1000 - 1700	A
16	Canby to Junction US 395 (Alturas)	MOD	21.81	MOD	40.63	1850 - 4500	B	2000 - 4900	B	2100 - 5300	B
17	US 395 to Nevada State Line	MOD	40.63	MOD	66.63	190 - 1450	A	200 - 1600	A	300 - 1800	A

[1] LOS reflects completion of improvement identified on the Segment 4 (299TRI04) Fact Sheet.
[2] LOS that will result if the Buckhorn Grade Improvement Project is completed.

Table 27
Facility Concept

County	Post Mile Limits	Facility Concept	Twenty-Year Facility Concept	Post Twenty-Year Concept
West of SR 273				
HUM	0.0/R5.93	4-Lane Freeway	4-Lane Freeway	4-Lane Freeway
HUM/TRI	R5.93/50.62	2-Lane Conventional	2-Lane Conventional	2-Lane Conventional
TRI	50.62/52.72	2-Lane Conventional	TBD[1]	TBD[1]
TRI/SHA	52.72/21.65	2-Lane Conventional	2-Lane Conventional	2-Lane Conventional
Greater Redding Area				
SHA	21.65/24.09	4-Lane Conventional	4-Lane Conventional	4-Lane Conventional
SHA	24.09/27.85	4-Lane Freeway	4-Lane Freeway	4-Lane Freeway
East of I-5				
SHA	27.85/80.09	2-Lane Conventional	2-Lane Conventional	2-Lane Conventional
SHA/MOD	80.09/21.81	2-Lane Conventional	2-Lane Conventional	2-Lane Conventional
MOD	21.81/66.63	2-Lane Conventional	2-Lane Conventional	2-Lane Conventional

[1]Traffic volumes are forecast to increase and cause operation of SR 299 through Weaverville to fall below target level of service. Capacity expansion and/or operational improvements needed to address level of service will be identified and developed in cooperation with the Trinity County Transportation Commission and other interested stakeholders.

Source: Caltrans, District 2, Office of System Planning
Note: improvements such as passing or climbing lanes may be needed in some areas designated as "2-Lane"- refer to segment fact sheets for more information.

Design Concept

Table 28 identifies the Design Concept for SR 299 that has been established for the outside shoulder width, travelled way width and clear recovery zone. A full description of design standards is provided in the Highway Design Manual.

Table 28
Design Concept

County	Begin Post Mile	End Post Mile	Outside Shoulder	Traveled Way	Clear Recovery[1]
HUM	0.00	R5.93	10'	12'	30'
HUM	R5.93	R29.13	8'		20'
HUM	R29.13	43.04	4'		
TRI	0.00	50.62			
TRI	50.62	52.72	8'		
TRI	52.72	72.25	4'		
SHA	0.00	14.0			
SHA	14.0	24.09	8'		
SHA	24.09	40.90			
SHA	40.90	52.44	4'		
SHA	52.44	56.90	8'		
SHA	56.90	71.58	4'		
SHA	71.58	80.08	8'		
SHA	80.08	89.56	4'		
SHA	89.56	99.36	8'		
LAS	0.0	0.78			
LAS	0.78	10.41	4'		
LAS	10.41	25.64	8'		
MOD	0.0	0.33	8'		
MOD	0.33	20.25	4'		
MOD	20.25	40.64	8'		
MOD	40.64	66.63	4'		

[1]When curbs and gutters are present the Caltrans Highway Design Manual standard of 1.6 ft clear recovery applies.

Four Foot Shoulder Concept

The usual standard shoulder width detailed in the Highway Design Manual for a two lane conventional highway such as SR 299 with an ADT over 3000 is eight feet. However, a four foot wide paved shoulder width has been identified for portions of SR 299 with extensive environmental constraints such as topography or proximity to waterways/riparian areas. Allowance for four foot shoulders may enhance opportunities to build projects in such locations, rather than having the cost and environmental constraints associated with eight foot shoulders potentially making projects unfeasible. Eight foot shoulders may still be implemented in areas identified for four foot shoulders, if determined to be reasonably feasible. Some site specific locations within areas where an eight foot shoulder concept is identified, may have constraints to warrant a lesser standard to be implemented.

Prior to applying the four foot Design Concept provided in Table 28, the following factors must be considered:

- Eight foot shoulder width is desirable within 1000' of intersections with county roads and State highways.
- Eight foot shoulder width is desirable in communities along the route.
- Four foot shoulder width is standard on right side of climbing or passing lanes.

Implementation of a four foot shoulder concept will require a Design Exception when projects are developed.

The pictures below illustrate some of the areas where the four foot shoulder concept is applied.

TRI PM 22.88

SHA PM 88.6

LAS PM 5.47

MOD PM 55.59